

**LIBRARY AND INFORMATION NEEDS OF CONTINUING EDUCATION STUDENTS AT THE  
UNIVERSITY OF BOTSWANA: A CASE OF TWO SATELLITE CENTRES**

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## CHAPTER ONE

### INTRODUCTION

#### 1.0 Introduction

From its initial origins as part of a multi-campus university for Basutoland, Bechuanaland and Swaziland, the University of Botswana came into existence in 1982, the successful outcome of a concerted effort by the people and government of Botswana to attain their own institution of higher learning (Otlhogile, 2003). Since its establishment, the university has expectedly been “closely involved in the national development process of Botswana” (University of Botswana Calendar, 2006). In this respect, part of the special mandate of the University is to “engage in improving the quality and in expanding the quantity of the human resources needed for development, and to act as the repository of the collective knowledge and experience of the nation and the world” (UB Calendar, 2006). In fulfilling these functions, the university presently offers its various certificate, diploma, degree and higher degree programmes through faculties, Schools, Departments, Institutes and Centres. One of such centres is the Centre for Continuing Education (CCE).

The Centre for Continuing Education, which is an outreach arm of the University of Botswana, was legislated into existence in 1987. It was then subsumed under the defunct Institute of Adult Education. It continued to operate under this arrangement until 1991 when the Institute itself dissolved to emerge as Department of Adult Education and CCE also assumed a separate and autonomous status serving all Faculties. It was however not until 1994 that the Centre was given a new impetus when the substantive Director was appointed. The second National Commission on Education (1993) with respect to continuing education at tertiary level recommends, among others, that all tertiary education institutions should make formal organizational arrangements for providing appropriate short courses and part time programmes

As an outreach arm, the CCE is responsible for taking the university education beyond the full-time/on-campus students to the grassroots, particularly, adult members of the community. According to Tlou (1995) the role and responsibilities assigned the CCE in the University Development Plan (NDP VII) include opening up access to more educational opportunities, and using suitable alternative approaches to spread the institution’s impact to every corner of the country. Akinpelu (1995) confirms that the

Centre for Continuing Education has as its main aim the extension of the University-based resources to citizens who, for one reason or another, could not avail themselves of these programmes and resources like the internal students. He notes that the aim also seeks to make the University more relevant to its envioning community through series of programmes addressing live and topical issues of the society.

In line with its objectives, the CCE is organizationally divided into units along different types of programmes to meet the different requirements of its different clientele (Akinpelu 1997). One of the 3 major units of CCE is Extra Mural Unit [EMU]. This unit presently offers credit and non-credit programmes on part-time basis. Its best known credit programmes are Certificate and Diploma in Accounting and Business Studies [CABS/DABS]. The CCE recently phased out the CABS programme, leaving only DABS in the menu. Diploma in Accounting and Business Studies programme has indeed gained and continues to gain wide acceptance throughout the length and breadth of the country. It has indeed assumed a dimension to the point that apart from Gaborone and Francistown campuses of the University of Botswana, the programme was established in six other satellite centres across the country. These satellite centres include: Ghanzi, Lobatse, Jwaneng, Maun, Selebi Phikwe and Mahalapye. Of late however, the centre in Ghanzi was suspended. The Ghanzi suspension presently leaves seven centres across the nation where diploma in accounting and business studies programme takes place.

It is to be noted that irrespective of their location and mode of learning the university library is to support the academic endeavours of the students of the university. Indeed the mission of the University of Botswana Library is to contribute to the University's endeavours in the advancement of learning and academic enquiry. Among others, the mission aims:

- to foster a caring and supportive environment in which service to customers is paramount

- to efficiently process, preserve, provide access to and/or disseminate information available in house or through international database

- to equip customers with the necessary skills which allow them to exploit the various information sources in support of present and future needs

- To respond speedily and appropriately to academic support needs and expectations of students and faculty. (University of Botswana, 2000)

The above aims underscore the role and obligation of the university library to its clients particularly students and staff of the university. Despite the lofty aims, it is noted that the physical presence of the university library can only be seen in Gaborone, Francistown and Maun where three of the CCE centres are located. Even then, the university infrastructures in Maun are located more than 20 kilometres from Maun Technical College, which is the venue where DABS programme holds. In other words, the university library does not have any physical infrastructures in five of the satellite centres where the CCE runs its part time evening DABS programme. For reasons of lack of UBL physical facilities in these locations, students in those centres run the risk of not having easy and direct access to good library facilities. How then are the students library and information needs met? What are the library and information needs of students in these satellite campuses? Are public libraries in towns and, or villages where the satellite campuses located able to effectively meet the library and information needs in these centres? Obviously, there is some perceived gap in the service provision for the user group in these locations.

Kascus and Aguilar (1992) maintained that library support is an integral part of quality education and a vital service that should be available to all students, whether on-campus or off-campus. It is therefore important that library and information facilities are made available to the outreach learners, perhaps on equity basis with their traditional full-time counterparts. Because of their geographical location, this group of students, like distance learners, stand the risk of not having easy access to library and information facilities, unlike their traditional counterparts. This observation, among others, probably prompted Sweet (1986) to assert that such problems are known to lead to a decline in motivation for study, cause high levels of students' frustration and play a role in student attrition.

In the new age of network connectivity, collaboration, as well as information and communication technologies, how are the library and information needs of these learners met in Botswana? Watson (1992) affirmed that it is the responsibility of all institutions offering external studies to provide at least a base level of library service to their students commensurate with the library related needs of these courses.



In this study, the CCE satellite centres in Selebi Phikwe and Mahalapye were focussed. The two centres were established in 1994 and 1995 respectively following the result of the feasibility studies conducted on the viability of starting certificate and diploma in accounting and business studies (CABS/DABS) in the two locations. The centres are two of the satellite centres of CCE that do not have physical infrastructures.

In Selebi Phikwe, the CCE has since 1994 been using the hired premises of Meepong Community Junior Secondary School to teach its students in the part time evening programme. The part-time lecturers are also drawn from Secondary schools and Technical College in the town. As a copper mining town, some qualified part-time lecturers are also recruited from the mine to teach at the centre in the evening. The town has a public library, which is not known to stock materials for tertiary level students, even at certificate or diploma level. A lot of efforts have been made by the CCE North Library branch of the University Library in Francistown to go into collaborative partnership with the public library in the town to assist the students. These efforts have not yielded any positive result. For instance, the request made to keep some materials in the library for the use of the students there was turned down for various reasons. The library claimed there was lack of space in the library to keep books for the use of the university students. The library also expressed fear of how or who to replace any damaged or lost books. On yet another occasion the CCE North Library kept some materials with the coordinator of the programme in Selebi Phikwe for circulation among the lecturers and students there. It was realised at the time of stock verification that some of the items could neither be located nor accounted for.

Like the centre in Selebi Phikwe, Mahalapye centre also holds within the premises of Madiba Senior Secondary School, Mahalapye since the establishment of the centre in 1995. The part-time lecturers for the CCE programme are recruited from secondary schools and some government departments in the town. Even though there is also a public library in Mahalapye, there has not been any meaningful cooperation between this library and the University of Botswana Library. Collaborative efforts made by the Management of the University Library with Botswana National Library Service (BNLS), the umbrella body of public libraries in Botswana, did not yield any good result. The

consequence of this fruitless effort is that it has not been possible for students at Mahalapye centre to have access to good library facilities.

In the light of the above, it is obvious that the CCE centres in Selebi Phikwe and Mahalapye are two of the centres that lack adequate library and information support. Though some attempts have been made to provide library and information support services for students and staff in these centres, the efforts have been largely unsuccessful.

### **1.1 Statement of the problem**

The library usually discharges its traditional role and responsibilities within its four walls. Library users are therefore exposed to a variety of formats to access and meet their information needs. A different experience confronts the library when its patrons are non-conventional, and are located in far away distances from the library of their institutions. This is the peculiar case of the students in the two satellite campuses under examination. It can reasonably be said that the most difficult clientele of the library of academic institutions are non-conventional students.

Though it is a project the university has deeply committed itself with the establishment of its outreach arm, it is absolutely difficult, if not impossible, for the university library to establish its branch in every location where the university has its presence. As already implied above, the university library does not have any physical infrastructures in the satellite centres of Selebi Phikwe and Mahalapye where the students can easily meet their information needs. Yet, there is no gainsaying the fact that the quality of any academic programme can only receive enhancement when library facilities are added and accessible. With about 160 kilometres, the nearest university branch library to Selebi Phikwe centre is the CCE North Library in Francistown, while the main branch of the University library located some 200 kilometres away is the nearest university library to Mahalapye centre.

In this author's view, the students undergoing the part time evening programmes, particularly those in centres where the university does not have some physical

infrastructure, seem largely disadvantaged if not forgotten. The author, in his search for any work/research done on them, found none. Since they are disadvantaged, their library and information needs may not have been adequately catered for. The consequence of this is that the students may be undergoing their three year diploma course of study in these satellite centres without having to use any library facilities or even receiving the assistance of the library. This exercise is therefore an attempt to examine how the students in satellite centres are fairing particularly in so far as their library and information needs are concerned. The study is also to establish how these students are coping with or without easy access to library facilities; explore or unravel what their library and information needs are; and suggest how these needs can be met.

## **1.2 Objectives of the study**

The above statement accounts for the reason and motivation for this study. The general objective of this study is to investigate the library and information needs of the continuing education students of the University of Botswana in some satellite campuses. Specifically, the aims of this study are to:

Conduct the library and information needs analysis of the part-time evening students of the CCE programme based in Selebi Phikwe and Mahalapye

Review the perceived gap in library and information service provision to the students in the identified centres,

Establish the extent of knowledge of (computing and) information skills by the part-time evening students in the two centres, and

Propose some suggestions or recommendations of library and information service delivery that are effective and responsive to the needs of these outreach students.

## **1.3 Research Questions**

- i. What are the library and information needs of students in these satellite campuses?

- ii. How are the students' library and information needs met?
- iii. Do the students in the satellite campuses have (adequate) access to information sources?
- iv. Are public libraries in towns and, or villages where the satellite campuses located able to effectively meet the library and information needs of students in these centres?
- v. Are the students adequately equipped with information skills to enable them access library and information services with confidence?
- vi. What information facilities are available for the use of students in their locality and how often do they use these facilities?
- vii. What are the barriers affecting the students use of information sources in satellite campuses?

#### **1.4 Research Hypotheses**

In the light of the above and based on the observation from the literature, this study would test one main ( $H^m$ ) and eight sub hypotheses ( $SH$ ). The hypotheses are drawn to enable us provide the right and appropriate answers to the research questions itemized above. All expressed in the null the hypotheses include:

**$H^m$ :** The library and information needs of continuing education students in satellite campuses are not significantly adequately met.

**$SH^1$ :** Students are not adequately equipped with information skills to enable them access library and information services with confidence

**$SH^2$ :** Continuing education students have no significantly preferred information format from print, electronic and Audio-visual formats.

**$SH^3$ :** There is no significant difference in the various information sources used to acquire information

**SH<sup>4</sup>**: There is no significant information source used by the respondents

**SH<sup>5</sup>**: There is no significant procedure for obtaining information needed.

**SH<sup>6</sup>**: Students do not have adequate access to appropriate information sources.

**SH<sup>7</sup>**: Public libraries in towns and villages where satellite campuses are located are not significantly effective in meeting the library and information needs of students.

**SH<sup>8</sup>**: There are no significant differences in the impact of barriers affecting the use of information resources

### **1.5 Significance of the Study**

The focus of this research is on the library and information needs of continuing education students of the University of Botswana in satellite campuses. It is the first research to be carried out on them – the study is therefore significant in a number of ways. First, it is viewed that academic library including the University of Botswana Library is obligated to ensure that its clients, irrespective of wherever they may be located, gain access to information. The study will therefore reveal library and information needs of the part time evening students.

Second, the views and opinions of the students in the satellite campuses of the University of Botswana with respect to library and information provision will be made open, for the first time.

It is the candid belief of the author that the University of Botswana Library would, by this research, be assisted in determining how best to cater for or provide its service to this seemingly difficult clientele in satellite campuses, with Selebi Phikwe and Mahalapye as case study. The Customer and Extension service of the University of Botswana Library (the arm of the university library that is meant to cater for them) would have a better knowledge and understanding of this group of students in their menu.

The study is also significant in the sense that some suggestions on library and information service delivery that are effective and responsive to the needs of these outreach students would be offered.

### **1.6 Limitations and delimitations of the study**

As indicated in the introduction above there are presently 7 viable centres across the country where the CCE operates its part-time evening (continuing education) programmes. Out of these the University has its infrastructures which include library facilities in only two centres. Five of the remaining satellite centres cannot boast of library facilities belonging to the University of Botswana. This study concentrates on library and information needs of students in only two of the five satellite centres. For reasons of time constraints the study could not be extended to all the centres that lack the UB provided library facilities/infrastructures. Further, the two centres that have library facilities could not be factored into the study.

## CHAPTER TWO

### 1. LITERATURE REVIEW

#### 2.1 Introduction

The review is carried out on continuing education as a concept or term. We shall also discuss various significant models on information needs and information (seeking) behaviour. The review will be extended to examining some of the various studies or researches that have been carried out on information needs and information (seeking) behaviour.

#### 2.2 Continuing education

Many authors including Akinpelu (1996, 1997), Javis (1983, 1998), Courtney (1989) among others have extensively addressed Continuing education as a term. Possibly because of its seeming newness as a field of study and partly because of the wide diversity of educational activities that pass for continuing education, Akinpelu (1997) suggests it may sound premature to describe continuing education as a concept. He notes essentially that a delimitation exercise is still going on to closely define the field and produce a set of agreed, sufficient and necessary or important criteria for it. Though continuing education has most often been linked in theory and in practice with the concept of adult education, Courtney (1989) recounts other related terminologies. According to him other terminologies like lifelong learning, independent learning projects, community education, community development, andragogy, adult learning etc have all been used at one time or another to mean more or less the same thing.

As the overlap and confusion in the terms developed, Akinpelu notes that in terms of coverage continuing education is an element or component of adult education in that it does not include 'initial' education such as basic adult literacy. This is implied in the attempt given to the definition of continuing education in the report of the Second National Commission on Education in Botswana, when it states that:

Continuing education refers to opportunities for part-time learning

offered to adults who have successfully completed the basic cycle of school education (that is, in Botswana context, the Junior Certificate

- Report of National Commission of Education, 1993

The Report also gives recognition to Out-of-School education, which was defined as: 'the provision of opportunities to young people and adults who have successfully completed JC to continue their education (and training) through part-time studies'.

From the above account, it could be noticed that continuing education is not an initial education. Indeed it presupposes the existence of a basic or initial education. This seems to account for the reason why Akinpelu (1996) notes that most, if not all, of known continuing education activities refer to post initial education; hence, adult literacy or basic education will not qualify to be described as continuing education. He adds that conceptually, the word 'continuing', whatever else it may mean, can only mean a 'carrying forward' or an extension of an activity, rather than a starting or beginning of it. With the tone of finality, Akinpelu concludes that in whatever way continuing education may be conceived or construed, it may not refer to adult's initial education or children's elementary schooling without doing some violence to its intrinsic and denotative meaning.

Javis (1998) also subscribes to continuing education as being a term that refers expressly to post-initial education. Specifically, Javis notes that continuing education can be seen to be a continuation of educational provision beyond initial education. An extension of the definition was elaborately provided by the Accrediting Commission of the Continuing Education Council of the United States. In his support of the definition Javis cites Apps reiterating the definition of Continuing Education provided by the Commission as:

the further development of human abilities after entrance into employment or voluntary activities. It includes in-service, upgrading and updating education. It may be occupational education or training which furthers careers or personal development. Continuing education includes that study made necessary by advances in knowledge. It *excludes* most general education and training for job entry. Continuing education is concerned primarily with broad personal and



professional development. It includes leadership training and the improvement of the ability to manage personal, financial, material and human resources. Most of the subject matter is the professional, technical and leadership training levels or the equivalent

Though the purpose(s) of continuing education are inherent in the definition provided above, Apps (1979) seems to appropriately articulate the purposes in clear term when he suggests that the purpose of continuing education is to enhance the quality of human life in all its personal and social dimensions. More specifically, Apps suggests the following purposes:

To help people to acquire the tools for physical, psychological and social survival e.g. work skills, coping skills for day-to-day living, skills for interpersonal relationships, and skills for leisure time.

To help people to discover a sense of meaning in their lives – to discover and achieve personal creativity.

To help people to learn how to learn– sever dependence on institutions.

To help societies and communities provide more human, social, psychological and physical environment for their members.

In an appraisal he presented on Continuing Education in the revised policy on education in Botswana, Youngman (1996) who was a member of the National Commission on Education notes that the Report identified three *clienteles* for continuing education and training in Botswana. The first target group for continuing education to the 'O' level stage is the Junior Certificate holder who cannot get a place in senior secondary school or vocational institutions. The second target group is employed or self-employed adults seeking to improve their situation by taking pre-tertiary courses of study, whilst the third target group comprises those who have secondary or tertiary qualifications and whose professional advancement requires the acquisitions of further qualification or in-service training at the tertiary level. Though the Report envisaged a variety of programmes to meet the learning needs of the three target groups, the subjects of this exercise – the

continuing education students of the University of Botswana fall in the last two groups of the categorization.

From the review of the term 'continuing education' carried out above, the purpose of continuing education is well established. This has been clearly articulated by Apps as noted above. This study identifies with Apps that continuing education, among others, helps people to learn how to learn, among others. But then it is viewed that if the goal must be achieved the people engaged in continuing education must be adequately equipped with appropriate skills and required facilities. This is part of the objectives this study is meant to achieve.

### **2.3 Information needs / information (seeking) behaviour**

Information needs, information-seeking and information behaviour are intertwined concepts (Thórsteinsdóttir, 2001), which have long engaged the interest of researchers, particularly, the information scientists. As such, a number of attempts have been made by authors to explain and/or define the concepts. Writing on the concept of information need, Wilson (1997), one of the earliest researchers to explain the concept of information seeking behaviour, asserts that there must be an attendant motive when a person experiences an information need. The duo - Wilson and Walsh (1996) probably explain it better in an earlier discourse when they note that at the root of the problem of information-seeking behaviour is the concept of information need. Kuhlthau (1993) suggests that information need is often understood in information science as evolving from a vague awareness of something missing and as culminating in locating information that contributes to understanding and meaning. Dervin and Nilan (1986) also describe information need as a gap in individual's knowledge in sense-making situations. In their own description of information needs, Devadason and Lingam (1996) state that in day to day work lack of self sufficiency constitutes information needs. In the same tone as Dervin and Nilan, Devadason and Lingam assert that the information needs represent gaps in the current knowledge of the user. They categorized the information needs into three, namely; the expressed or articulated needs, the unexpressed needs which the user is aware of but does not like to express; whilst their third category of need has been described as the deliquescent or dormant need which the user is unaware of.

In a somewhat categorization of information needs Wilson (1997) emphasizes that there is usually something that propels or motivates an individual to seek the required information. In total agreement with the notion of Weights, et al (1993), Wilson affirms that individuals may experience a need for new information, a need to elucidate information held and the need to confirm information held. In an earlier discourse Wilson (1981) notes that *need* is a subjective experience which occurs only in the mind of the person in need and, consequently, is not directly accessible to an observer. He asserts that the experience of need can only be discovered by deduction from behaviour or through the reports of the person in need.

Whilst writing on a methodology for the identification of information needs of users, Devadason and Lingam (1996) cited Crawford (1978) as saying that information needs depend on the following:

- Work activity
- Discipline/ Field/Area of interest
- Availability of facilities
- Hierarchical position of individuals
- Motivation factors for information needs
- Need to take a decision
- Need to seek new ideas
- Need to validate the correct
- Need to make professional contributions
- Need to establish priority for discovery etc.

In demonstrating further understanding of the users information needs Devadason and Lingam (1996) identified some factors which they believe are capable of adding to the complexity of information needs identification. The identified factors include:

Same information is perceived by different users differently as their information need. (Value system of users differs due to the nature of work and its effects factors such as the information products and services).

Researchers need original documents whereas planners need digests of 'point of view'/ opinions;

Information is put to different uses (R&D personnel, Application developers and technicians - all put information to different uses);

Need is satisfied by having access to the identified information in a particular package and form, and at a suitable time;

The flow of information and channels of communication are complex and add to the complexity; and

Individual preferences and behavioural aspect as a further dimension.

As if trying to underscore the perceived problems of complexity in information needs and therefore advocating for a shift, Dervin and Nilan (1986) in their analysis observe that user studies in the past concentrated on how users use existing information systems, what barriers they faced, and how satisfied they were with the information systems that they were using. They therefore came up with the idea of a paradigm shift towards making the user the central focus when attempting to understand user information needs for purposes of designing usable information systems.

Similarly, a lot of work has been done on the concept of information (seeking) behaviour. For instance, Lokman and Stephanie (2001) perceive information seeking as a broad term which encompasses the ways individuals articulate their information needs, seek, evaluate, select and use information. Kingrey (2002) sees information seeking as involving the search, retrieval, recognition and application of meaningful content. She argues that the search may be explicit or implicit, whereas the retrieval may be the result of specific strategies or serendipity. She notes that the resulting information may be embraced or rejected, the entire experience may be carried through to a logical conclusion or aborted in stream, and there may be a million other potential results. As a result of the closeness there has been evidence of proposal of information-seeking behaviour, as an alternative to information needs (Wilson, 1999). Eeva-Liisa (1998) cited

Taylor's (1991) definition of information behaviour as the product of certain elements of the information use environment. The noted elements include:

The assumptions formally learned or not, made by a defined set of people concerning the nature of their work.

The kind and structure of the problems deemed important and typical by this set of people.

The constraints and opportunities of typical environments within which any group or subgroup of this set of people operates and works.

The conscious, and perhaps unconscious assumptions made as to what constitutes a solution, or, better said, a resolution of problems, and what makes information useful and valuable in their contexts.

From the foregoing, this study subscribes to the tone of Dervin and Nilan, Devadason and Lingam when they assert that the information needs represent gaps in the current knowledge of the user. It is an assumption of this study that there is a gap that needs bridging in the educational pursuit of the continuing education students in satellite centres, particularly as they are to write assignment, test or examination. This study holds the view of Lokman and Stephanie (2001) supported by Kingrey (2002) in their perception of information seeking as a term that encompasses the ways individuals articulate their information needs, seek, evaluate, select and use information. The study is interested in their behaviour pattern or how the students articulate their needs and how they go about searching to bridge the gap even in the absence of UB library in their immediate environment.

## **2.4 Models of information (seeking) behaviour**

We shall now examine various models of information seeking behaviour that have been developed. It should be stated that there seems to be a profusion of models already developed in the field to the point that it may be difficult to mention or discuss all of them.

For purposes of this review however, we shall discuss the models of four information scientists that are considered pertinent to this study. These include:

#### **2.4.1 Wilson's models of Information (seeking) behaviour**

Wilson's (1981) model of information-seeking behaviour arises as a consequence of a need perceived by an information user, who, in order to satisfy that need, makes demands upon formal or informal information sources or services, which result in success or failure to find relevant information. Wilson explains further that if successful, the individual then makes use of the information found and may either fully or partially satisfy the perceived need - or, indeed, fail to satisfy the need and have to reiterate the search process. The model, according to Wilson, also shows that part of the information-seeking behaviour may involve other people through information exchange and that information perceived as useful may be passed to other people, as well as being used (or instead of being used) by the person himself or herself.

The limitation of this kind of model, as acknowledged by Wilson himself, is that it does little more than provide a map of the area and draw attention to gaps in research. It does not provide suggestion of causative factors in information behaviour and, consequently, it does not directly suggest hypotheses to be tested. He later observes that the concept of information behaviour was more suitable because it includes other behaviours along with seeking behaviour. It has also been noted that the ever changing and dynamic information environment demands a ceaseless and continuous effort be made to ensure that the information needs of users are adequately addressed.

Wilson's second model of 1981 is based on two main propositions. First, that information need is not a primary need, but a secondary need that arises out of needs of a more basic kind. Second, that in the effort to discover information to satisfy a need, the enquirer is likely to meet with barriers of different kinds. Drawing upon definitions in psychology, Wilson proposes that the basic needs can be defined as physiological, cognitive or affective. He goes on to note that the context of any one of these needs may be the person him- or herself, or the role demands of the person's work or life, or the environments (political, economic, technological, etc.) within which that life or work takes

place. He then suggests that the barriers that impede the search for information will arise out of the same set of contexts (Wilson, 1999).

The strength or good effect of this model, as established, is in being able to suggest how information needs arise and what may prevent (and, by implication, aid) the actual search for information. In a review, Wilson notes that the model embodies, implicitly, a set of hypotheses about information behaviour that are testable: for example, the proposition that information needs in different work roles will be different, or that personal traits may inhibit or assist information seeking. The observable weakness of the model however is that all of the hypotheses are only implicit and are not made explicit. Nor is there any indication of the processes whereby context has its effect upon the person, nor of the factors that result in the perception of barriers, nor of whether the various assumed barriers have similar or different effects upon the motivation of individuals to seek information (Wilson, 1999).

In a move that shows his dissatisfaction of the inherent weakness and criticism of his earlier models, Wilson attempts another one by carrying out a major revision of his 1981 model in another model he developed and called Information behaviour. Apart from information science, the new model draws from researches in other fields like psychology, health communication, innovation, consumer research and decision-making.

Like in the framework of his 1981 model, the person in *context* in Wilson's 1996 model remains the focus of information needs. The barriers are represented by intervening variables and information-seeking behaviour is identified. Elaborating on the concept of *intervening variables* or *barriers*, Wilson specifies the fact that *characteristics of the information source* may constitute a barrier, either to information-seeking behaviour or to information processing, and that *personal* variables may be either *psychological* or *demographic*. Information-seeking behaviour, according to Wilson, is shown to consist of more types than previously, where the active search was the focus of attention; information processing and use is shown to be a necessary part of the feedback loop, if information needs are to be satisfied. Three relevant theoretical ideas are presented: These are stress/coping theory, which offers possibilities for explaining why some needs do not invoke information-seeking behaviour; risk/reward theory, which may help to explain which sources of information may be used more than others by a given

individual; and social learning theory, which embodies the concept of self-efficacy - the idea of 'the conviction that one can successfully execute the behavior required to produce the {desired} outcomes'.

#### **2.4.2 Ellis behavioural model of information seeking strategies**

Ellis (1989) seems to provide a detailed picture of different behaviours involved in information seeking. Ellis in a research therefore proposes a pattern of information seeking behaviour that included eight generic features or research activities: The features are named and defined as:

Starting: the means employed by the user to begin seeking information, for example, asking some knowledgeable colleague;

Chaining: following footnotes and citations in known material or 'forward' chaining from known items through citation indexes;

Browsing: 'semi-directed or semi-structured searching'

Differentiating: using known differences in information sources as a way of filtering the amount of information obtained;

Monitoring: keeping up-to-date or current awareness searching;

Extracting: selectively identifying relevant material in an information source;

Verifying: checking the accuracy of information;

Ending: which may be defined as 'tying up loose ends' through a final search.

Ellis (1993) argues that communication with other people is a key component in the initial search for information. It is important to note that Ellis model is based on empirical research, which has severally been tested.

#### **2.4.3 Kuhlthau's model of information search process [ISP]**

In a similar way as Ellis model discussed above, Kuhlthau's (1991) work also attaches some associated feelings, thoughts and appropriate information tasks (actions) to



various stages of information search process (ISP). The six stages of Kuhlthau's ISP include Initiation, Selection, Exploration, Formulation, Collection and Presentation.

According to Kuhlthau at *Initiation*, when a person first becomes aware of a lack of knowledge or understanding to accomplish an assignment, feelings of uncertainty and apprehension are common. At this point, the task is merely to recognize a need for information. Thoughts are vague and ambiguous centering on the general problem or area of uncertainty.

*Selection* - the second stage is to identify and select the general area or topic to be investigated. Feelings of uncertainty often give way to a brief sense of optimism after selection has been made and there is a readiness to begin the search. Kuhlthau notes that when, for whatever reason, selection is delayed or postponed, feelings of anxiety are likely to intensify until a choice is made.

*Exploration* stage Kuhlthau notes is often the most difficult stage for users and the most misunderstood by intermediaries. Feelings of confusion, uncertainty and doubt frequently increase during this time. She notes that thoughts center on becoming oriented and sufficiently informed about the topic to form a focus or a personal point of view. Actions involve locating information relevant to the general topic, reading to become informed and relating new information to what is already known.

The fourth stage, *Formulation*, according to Kuhlthau is the turning point of the process when feelings of uncertainty diminish and confidence begins to increase. Thoughts become more clearly defined as a focused perspective of the topic is formed.

The fifth stage is *Collection* when interaction between the user and the system functions most effectively and efficiently. At this point, users have a clearer sense of direction and can specify the need for particular information. She notes that confidence continues to increase as uncertainty subsides with interest in the project deepening.

The sixth stage is *Presentation* when the task is to complete the search and to accomplish the assignment. A sense of relief is common, with satisfaction if the search has gone well or disappointment if it has not.

The antecedent to the above was found in the empirical study of Kuhlthau (1988) which focuses on the search process of students in secondary schools. Kuhlthau began by looking at a group of twenty-six college-bound high school seniors, and observing them as they went through the process of researching and writing two literary theme papers. During the course of researching the first paper, she asked the students to record their thoughts and feelings about the search and the project in a journal; during the second she asked them (the students) to record more concrete information about the sources used, how they found them, and whether the sources were useful or not. Kuhlthau fully expected them to proceed through a series of phases in the research, as suggested by the psychological theory of George Kelly, to which she acknowledged her indebtedness. Data was collected by means of the journals of thoughts and feelings, the logs of sources they used, as well as flowcharts to indicate their state of mind at the various stages of the search.

#### **2.4.4 Dervin's sense making theory**

The sense making theory of Dervin (1999), attempts to focus on the user's perspective and motivations before he or she even approaches a system. This model analyzes the ways in which a user approaches the task of seeking information. Dervin's work centres on the individual's communicating behaviors. Annabi (2005) in a paper observes that Dervin's model was developed as an alternative to the traditional rigid models, in which we "ask users questions which start from our worlds, not theirs. ... [These questions], she notes, are predicated on the idea that the system is the essential order and the person/user bends to it". Dervin believes that it is in the realm of information behavior that we ought to find humans at their most creative, least constrained by external forces, because so much of individual information use is private.

The *sense-making* model examines information needs using the *gap-bridge-helps* metaphor: as an individual lives and works, he or she encounters discontinuities or gaps in his or her information. In an attempt to overcome these gaps, the person employs some communicating tactics - each gap is singular, so a person may use a different tactic at each turn. By viewing information seeking in this light, a researcher can then ask the person to describe the three parts of the metaphor. The research attempts to learn "how the [person] saw the situation, the gap, and the help he or she wanted—that

is, where he or she wanted to land after crossing the bridge. The emphasis in this model is on the individual's perspective.

In a review, Wilson (1999) sums up Dervin's theory thus - the sense-making is implemented in terms of four constituent elements - a situation in time and space, which defines the context in which information problems arise; a gap, which identifies the difference between the contextual situation and the desired situation; an outcome, that is, the consequences of the sense-making process, and a bridge, that is, some means of closing the gap between situation and outcome. Wilson concludes that Dervin presents these elements in terms of a triangle: situation, gap/bridge, and outcome.

Having carried out a review of the models developed by four information scientists, this study would adopt an integrated approach where all the models reviewed would be applied. Special attention would be paid to Dervin's sense making theory by approaching the students from their "worlds" and not ours during the interview scheduled for the students. We would not want to give the impression that "these questions, are predicated on the idea that the system is the essential order and the person/user bends to it" as Dervin suggested. This study would want to establish the veracity of Ellis argument that communication with other people is a key component in the initial search for information, test some of the information search process (ISP) of Kuhlthau and also examines, among others, Wilson's model with respect to what constitutes barriers to the students in the satellite centres.

## **2.5 Studies on information needs and information seeking behaviour**

As earlier indicated, information needs and information seeking behaviour generally are concepts that have attracted the attention of a number of researchers. It is therefore no surprise that a sizeable number of studies have been carried out on these fields. It is appropriate at this juncture to examine some of them. These we believe will form the right background to our present study on continuing education students. Such studies conducted on information needs and information (seeking) behaviour in the conventional system cut across scholars/academics, undergraduate and graduate students. In some other instances, researches are centred on faculty basis such that we have studies on humanities, medical students etc.

In a study of the library and information needs carried out at the University (Hospitals) of Leicester by Harrison, Hepworth and De Chazal (2004), the results suggest that their respondents were information poor in terms of access to information sources. Also, information skills, including an understanding of libraries and services among the sample population, needed updating and developing. Lack of Internet access was seen as a significant barrier to obtaining information. Apart from suggestion for the provision of a robust IT infrastructure to enable easy and rapid access to the knowledge base from the desktop, it was also recommended that this should be augmented with the provision of information skills training.

Writing on medical students' information behaviour at a Finland University, Eeva-Liisa (1998) notes that medicine is among many other sciences - an area in which the expansion of information is enormous and which is critically dependent on up-to-date information. She cites the results of Mick's study in Taylor (1991) of information behaviour of medical students and indicates that the students were dependent on their personal notes and colleagues. With the implementation of problem-based learning (PBL) approach in the medical education, Eeva-Liisa cites Saunders et al. (1985) in Andrup (1995), Rankin (1992); Fridén & Oker-Blom (1995), affirming that the PBL-students choose sources which support learning process and they learn how to seek information on an early stage of education. PBL-students use a greater variety of sources more frequently than students taught with traditional methods. PBL- students choose sources which support learning process and they learn how to seek information on an early stage of education. Eeva-Liisa notes that students can't learn during their formal education all what is needed and therefore skills in problem-solving and independent information seeking are emphasized in the PBL-curriculum. This approach strikes some semblances with continuing education students too and is therefore related to this study. The location of their studies which are at a distance from where they could easily access library facilities is capable of compelling them to develop skills in problem-solving and independent information seeking as in the PBL-curriculum of medical education students.

In order to facilitate feedback on how the library services and resources used by undergraduate students could be improved and determine the purpose of the students

visits to the library, the University of Iowa carried out a user needs assessment survey of undergraduate students (Clougherty et al, 1998). The survey was also to determine the overall user satisfaction with the services and resources in the library. The results of this survey indicate that 72 per cent of respondents used the library as a place to study, 70 per cent use the photocopiers and 68 per cent to borrow books, magazines and journals. Students primarily turned to library staff for assistance (70 per cent), but they (56 per cent) also sought help from each other. Only approximately one-fifth of the respondents used library web-based tutorial, whilst about one-third used printed handouts. Approximately 84 per cent never attended any instructional classes. The undergraduate students desired that more publicity be given to the available library services.

At Nanyang Technological University Singapore, Majid and Tan (2002) carried out a study on usage of information resources by computer engineering students. The result revealed that 55 (56.7 percent) of the respondents "always" or "most of the time" used the NTU Library for coursework-related information needs. Of the respondents, 40 (43 percent) used the library, at the same level of frequency, for their project work. The library was "always" or "most of the time" used for the assignments and tutorials by 35 (36.8 percent) and 33 (34.4 percent) of the respondents respectively. It was found that the most preferred information format, among all years of the computer engineering students, was print, followed by electronic. The least popular information format was audio-visual. On perceived importance of information sources, a total of 96 (94.1 percent) of the respondents considered books "important" while none of them perceived them as unimportant. Lecturers were perceived as an important information source by 89 percent of the respondents. The Internet and friends were considered important by 86 percent and 83.8 percent of the respondents respectively.

The information-seeking behaviour of undergraduate biology students at the University College Dublin was investigated by Callinan (2005). The findings show that there are differences in the extent to which sources of information are used by students in different years of their studies. Apart from web sites and web-based lecture notes, she established that lack of awareness is the primary reason why undergraduate biology students she studied did not use the library's electronic databases. Callinan found that whilst borrowing is one of the main reasons for visiting the university library, differences are evident in the percentage of students in both sample groups who indicated it as a

reason, with almost twice as many undergraduate students in their final year borrowing books compared to those in their first year.

Adedibu and Adio (1997) also carried out a study on the information needs and information seeking patterns of medical students at Ladoke Akintola University of Technology (Lautech), Nigeria. The study revealed that 70 percent of the respondents spent three to eight hours in the library to consult materials that were relevant to their areas of specialisation. 44 percent of the respondents claimed that they depend mostly on textbooks for getting information required for their coursework, while another 24 percent relied on their lecturers. The result further revealed the complaint of the students that the reading environment was not too conducive for them to study. In particular the students showed some reservations on the inadequacy of materials in the library, the small size of the library; and that the operating hours of the library were not suitable for them. The respondents also complained that the books and journals were outdated. Thus the need arises that the library should constantly evaluate the collections and also involve the library users when selecting books and journals to acquire. The involvement of the users in selection exercise would ensure that the library does not spend huge sums of money buying materials that would not meet the users' information needs.

A case study of information seeking behaviour of humanities scholars at the University of Swaziland was conducted by Thwala (1996). The study established that the scholars use the university library to meet their information needs – they indeed mostly use the circulation desk as their channel. He notes that since some of the scholars were not happy with library services, they were forced to resort to personal collections and colleagues for information. The result of the study also indicates there was a direct relationship in status of scholars, length of service and the use of personal collection. The study shows that monographs/books and journals are the most useful information sources to the scholars. A very important factor in seeking information and information acquisition by the scholars which the study established was for purposes of career development. It is important to state that Thwala's study is somewhat different from the present study for some reasons. Whilst the Thwala's study was on scholars, this study is centred on students that are just up coming – the part time evening continuing education students. But like the scholars in Thwala's study, these students could also resort to

personal collections and colleagues for information, though not because of library services that they may not be happy about.

In a related development at the Moi University, Kenya, Ocholla (1996) did a study on the information seeking behaviour of academics at the university. A total of 27 academics each were randomly selected from four faculties, namely, health sciences, information sciences, environmental studies and education. The study conducted with the use of a questionnaire and interviews as instruments of study found that majority of the academics depend on libraries and colleagues for information. Faculty members ranked their information sources in the following order of preference: journals, textbooks, research reports and conference literature. On-campus colleagues were also considered an important information source.

In another study on the information needs and information seeking behaviour of the veterinary students and staff of the University of Zimbabwe, Chikonzo (2000) notes that the subjects are in need of current information for their daily use. This was demonstrated by their use of journals, CD-ROM databases, annual reports and the Internet. The findings showed that the main information provider for both groups was the University of Zimbabwe Veterinary Science Library which was considered to be the most important channel for accessing needed information. The results reveal the preference of the veterinary students for the electronic abstracts, indexes and hard copy. It is noted that in their search for information, veterinary staff developed "new ideas" of attending conferences and workshops, reading journals, consulting library books and through colleagues. Chikonzo notes that veterinary staff sought information when researching on a new topic, preparing lecture notes and conference papers and for career development. On the other hand, veterinary students sought information when writing an assignment and when studying for a test or an examination. Chikonzo, among other things, recommends the extension of the Library opening hours and that the Library should get connected to the Internet. As the subjects of this study also write assignments, tests and examination, attempts will be made to establish the times or periods they seek information, among others.

At the University of Port Harcourt, Nigeria, Osiobe (1988) did a study of the information seeking behaviour of students. With a random sample of 850 students the study established that the first five sources of references to literature for the undergraduates

were: browsing (23.9 percent), lecturers (17.53 percent), library card catalogue (17.53 percent), librarians (13.15 percent), references in articles and books (12.35 percent), and abstracts and indexes (7.97 percent). He notes that browsing, which requires no technical skill was found to be more common among the first and second year students. Lecturers were ranked second, as, in addition to delivering lectures; they would give references to the students. He observes that lack of effective user education programmes affects use of the library resources by the undergraduate students at the university. Osiobe concludes that poor use of abstracts/indexes demands that efforts be made to integrate instruction on the use of information access and library resources in some compulsory undergraduate course.

Similarly, Badu (1991) conducted a research on the information seeking habits of graduate students at the University of Ghana. This study revealed that most of the graduate students first consulted their personal collections, followed by department libraries, and finally the university library. Badu's result revealed that the respondents had a very limited knowledge of library resources and services. As a result of this glaring inadequacy, the study recommended that a library use education programme should be integrated into the university curriculum.

In her investigation of the information needs and information-seeking behaviour of graduate students at the University of Botswana, Fidzani (1997) notes that most graduate students lack basic skills on how to use the University of Botswana library services and resources. She indicates that students primarily relied on scanning the shelves or browsing through journals rather than using the index and abstract databases to locate information. In the same vein as Badu's result on the graduate students at the University of Ghana, Fidzani also regretfully notes that graduates at the University of Botswana do not have adequate training in the use of the library and that some of the students are not aware of the services the library can offer them. Of the respondents, 18.8 per cent indicated that they did not use CD-ROM services because they have difficulty in using them. Fidzani's study challenged librarians who should aim at making all users aware of the information resources available, both directly in the library and from external sources and enable users to enjoy the search for information. The study showed that there was a heavy reliance on library books, textbooks and journals as sources of information used for course-work. The respondents' most popular sources of information for their course work and project/research work were reported to be journals,



library books and textbooks, lecture notes and handouts. Fidzani counseled that for the graduates to access journals and library books, they must move beyond merely scanning journals and browsing shelves. They must learn how to use information retrieval tools such as the OPAC, card catalogues, and CD-ROMs effectively and efficiently. In the same tone as Osiobe, Badu and others, Fidzani's study also recommended a more aggressive library promotion campaign for creating awareness about the available resources and services.

Probably for reasons of its seeming newness as a field, all effort made to obtain related studies on continuing education came to naught. Thus all the studies reviewed above on information needs and information (seeking) behaviour were on conventional system. Notwithstanding, the review has provided some leeway in the study of the library and information needs (of continuing education). The gap already sighted in the review exercise would guide the study. Among other things, the study would establish whether the students were information poor in terms of access to information, the preferred information format and the students' use of other information sources like the Internet etc.

## **2.6 Conclusion**

From our survey of the literature, it can be seen that several information sources and channels play very significant role in meeting the information needs of learners. The library as an information channel plays its role by offering a range of services and facilities to the students. We have also seen that electronic technologies or information and communication technologies (ICTs) have a central role to play because of their capacity to support teaching and learning process as well as assisting the learners in scattered locations to have unfettered access to information from their virtual locations.

In most of the various institutions cited in the review, one particular issue that keeps recurring is the idea of equipping students with training on information and literacy skills to enable them easily access their information needs. The argument is that it is not enough to have all the resources in place, teaching the students how to use the resources will avail them an enhanced information environment. Heller-Ross (1996),

among others, perceives information literacy as a critical issue in this fast-paced social, economic, and political environment.

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

The intent of this study is to conduct an investigation into the library and information needs of the continuing education students of the University of Botswana with special reference to those undertaking their studies at the satellite campuses where the university does not have any physical library facilities. In particular, the study has a special focus on the students of the outreach arm of the university in Selebi Phikwe and Mahalapye satellite centres. The methodology of carrying out this study is discussed in this section.

#### 3.2 Research design

The primary research design adopted for this study is both descriptive and exploratory. This research design would tell what exactly the current state of affairs of the library and information needs of the outreach/continuing education students of the University of Botswana in the satellite centres. It would provide a careful description of this educational phenomenon. Like Mellon (1990), this author holds the view that Ary, Jacobs and Razavieh's (1990) maintain when they note that this research design is concerned with conditions or relationships that exists; practices that prevail; beliefs, points of view; or attitudes that are held; processes that are going on; effects that are being felt; or trends that are developing.

In the conduct of this survey, guides were also obtained from the review of models on information seeking behaviours developed by some notable information scientists. The models reviewed in the literature include Wilson's (1981, 1981 and 1999) models of information (seeking) behaviour; Ellis (1989) behavioural model of information seeking strategies; Kuhlthau's (1991) model of information search process [ISP] and Dervin's sense making theory (1999).

In order to do justice to the study, the researcher observed that using a single method

would not suffice in this type of study. He therefore adopted the triangulation approach where a combined effort of interview and questionnaire was put in place to obtain data. The researcher used survey method to collect data from the students. These efforts required that the researcher undertook separate trips to Selebi Phikwe and Mahalapye satellite Centres where the continuing education students undertake their studies. As the trip was bound to have some interference on the lecture and/or tutorial periods of the students, it also required that prior permission had to be sought and obtained from the Coordinators of the courses in the centres before the researcher embarked on the journey.

### **3.3 Population of the study**

Apparently, the focus of the study centres on continuing education students in two of the satellite campuses of the Centre for Continuing Education in Selebi Phikwe and Mahalapye. Though students in the three levels were targeted, for reasons of their experience in school, the students doing levels two and three of their diploma programme were given utmost priority in the survey. It was felt that the students in those levels, unlike their level one counterparts, had written a number of assignments and tests as well as more than two examinations. It was therefore assumed that the desirability or otherwise of library and information services would have been dawn and so much conspicuous on levels two and three students during the time spent so far in school. The levels two and three students were therefore given more priority in the two satellite centres than level one. Except for Selebi Phikwe that had two classes for level one, all other levels in the two centres had one class each. The students in each of these classes ranged between 35 and 50. Altogether, there were a total of 274 students in the two centres, whereas the total population of study for the 5 centres that lacked library facilities was 767. These include Mahalapye – 124 students, Selebi Phikwe – 150 students, Maun – 183 students, Jwaneng – 145 students, Lobatse – 165 students. For each of the two study centres of the case study, fifty copies of the questionnaire were administered. Altogether, a total of 100 copies of questionnaires were administered.

The random sampling technique was used in the selection of study population in each of the classes and levels. Except in level one class and for reasons highlighted above, the distribution of the questionnaire ensured that at least one in every three students was

selected.

### **3.4 Data Collection Methods and Procedure**

The major data collection instrument to obtain information for this exercise was a structured, self-administered questionnaire. Questionnaire or survey has been the most commonly used method in information-needs studies. This instrument (the questionnaire) was chosen for collecting data for this study for reasons of its flexibility in investigative studies. One good advantage of this methodology is the ease with which results are obtained from a large population in a relatively short time and at minimum cost. In addition, it is considered that the anonymity and confidentiality of a questionnaire will draw more satisfactory, frank and candid response from the respondents than an interview-based method. This claim is corroborated by the assertion of Sorensen (1973) cited in Dreyer (1995) when he asserts that, the questionnaire is preferable since it avoids the embarrassment of direct questioning and so enhances the validity of the responses. The research questions as noted earlier in Chapter one were translated into questions contained in the questionnaire designed.

In administering the questionnaire, the researcher first got in touch with the coordinators of the course coordinators at the two centres on phone to obtain permission to administer the questionnaire to the students. As the researcher also taught Information Skills component of Course GEC 121/122 to the students, he was not entirely new to the students. He was able to easily establish rapport with the students and obtain some information from them through the interviews conducted with some of the students. The questionnaires (See Appendix) were self administered after obtaining permission from the Coordinator and some part-time lecturers. The researcher was readily available to answer any query from the students in the process of completing the questionnaire.

The questionnaire attempted to elicit information on and address issues raised in the research questions discussed in Chapter one. Specifically, the questions sought, among others, to establish the library and information needs, resources and services that were available to them, resources the students would find useful, their preferred information format, level of computer and information skills, and/or computer and internet access, and problems/barriers that inhibit or affect their use of information sources.

It should be noted that though questionnaire was used as the major data collection instrument, interview was also carried out. The researcher conducted interview to seek further clarification of any grey areas or the result of the analysis. In this respect a total of 21 students were interviewed. Both the administration of the questionnaire and interview were carried out in the month of March 2006.

### **3.5 Data Analysis**

Data is abstracted from the questionnaires and entered into the Statistical Package for Social Sciences (SPSS) for computational analysis. Standard statistics are used, including frequency distributions and percentages, to carry out the analysis. Tables were used to provide an overview of frequencies as well as cross-tabs. Tables were developed from SPSS package to express the relevant data to the main and sub hypotheses. Cross tabulation and chi-square were made to relate the independent variables under demographic information to the findings and establish or measure possible influence where appropriate. Being a statistical technique that helps to determine whether the groupings of cases on one variable are related to the groupings of cases on another variable, chi-square was applied. As a non-parametric test of statistical significance for bivariate tabular analysis that chi-square is, any appropriately performed test (of statistical significance) helps to determine the degree of confidence to have in accepting or rejecting an hypothesis.

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND INTERPRETATION**

#### **4.1 Introduction**

The intent of this study was to investigate the library and information needs of the continuing education students at satellite centres of the University of Botswana with Selebi Phikwe and Mahalapye study centres as case study. This chapter presents the analysis, results and interpretation of the data collected using descriptive statistics. The data for the study were collected with questionnaire administered to students at the two centres, as well as interview conducted on the subjects. As observed in chapter 3 above, Tables were developed from SPSS to express the relevant data to the main and sub hypotheses. Cross tabulation and chi-square were made to relate the independent variables (Level, Location and Age) to the findings and establish or measure possible influence where appropriate. Chi square is a statistical technique that helps to determine whether the groupings of cases on one variable are related to the groupings of cases on another variable. It is a non-parametric test of statistical significance for bivariate tabular analysis. Any appropriately performed test of statistical significance enables us to know the degree of confidence we can have in accepting or rejecting an hypothesis.

#### **4.2 Response Rate**

Fifty copies of questionnaire were randomly distributed to students in Mahalapye and Selebi Phikwe study centres respectively. This figure constitutes about one third of the total population of the students in the two satellite centres. The questionnaires were personally administered by the researcher with the assistance of the Coordinators at the centres. Despite the assurance of confidentiality given and efforts of the researcher and coordinators at the centres, a total of 80 responses were received. This constitutes 80 percent response rate.

### 4.3 DEMOGRAPHIC INFORMATION

#### 4.3.1 Age, Location and Level

Though randomly selected, the data showed that there was greater number of females than males involved in the study. Only 27.5 percent (22) of the total respondents were males, while 72.5 percent or 58 were females.

There is a clear indication that majority of the students who registered for the study and randomly selected for the study fall within the age bracket of 21 – 25 years, while under 20 years old and 36 years and above were few among the continuing education students. It should be noted that continuing education programme of the University is a post secondary school programme.

The students fall into significantly different age groups. Mahalapye centre seems to have younger students. All the respondents from the centre were either under 20 or between 21 and 25 years old, whereas majority of respondents in Selebi Phikwe were above 25 years. Out of the 80 respondents that fully completed the questionnaire, 43 were from Mahalapye centre, whilst 37 were from Selebi Phikwe centre. Of the total respondents 20 were in level one, while 30 respondents were in levels two and three respectively. See table 1 for details of the respondents by age, level of study and location.

**Table 1:** *Distribution by Age, Level and Location*

		Level				Location		
		First Level	Second Level	Third Level	Total	Mahalapye	Phikwe	Total
Age	Under 20	3	0	0	3	3	0	3
	21-25	13	16	13	42	40	2	42
	26-30	2	7	12	21	0	21	21
	31-35	2	5	4	11	0	11	11
	36 & above	0	2	1	3	0	3	3
Total		20	30	30	80	43	37	80



#### 4.4. Information need areas

From the reaction of respondents, it is obvious but not surprising to note that subject relating to their course of study was topmost in the area of their information needs. A total of 95% of respondents chose this option. Information on further education after their diploma programme was the least, but even then, with a high percentage of 71. With 88.8% the results also showed that job opportunities for the respondents were of great concern to them on completion of their diploma programme. Indeed it was disclosed during interview that some of them decided to further their education to brighten their chance of obtaining jobs after graduation. Information on career development attracted 83.8% and sponsorship/scholarship for further education, 80% (See the table below for further details on the students information needs). The  $X^2$  value in virtually all the responses is significant ( $p < 0.05$ ). Given the significant number of respondents that picked each variable, all are significantly important in determining the information need areas of the students.

**Table 2: Information needs areas**

<b>Subject</b>	<b>% respondents rating</b>
Information on subjects relating to course of study	95
Information on job opportunities	88.8
Information on career development	83.8
Information on sponsorship/scholarship for further education	80
Information on further education after Diploma programme	71

#### 4.5 The Hypotheses

**4.5.1 Main Hypothesis ( $H^m$ ):** *The library and information needs of continuing education students in satellite campuses are not significantly adequately met.*

The Table (3) below presents the result of the inquiry to establish if the library and information needs of the students in the satellite centres were being adequately met or not. If nothing else, it is known that some resources including public library facilities were sited in the two locations where this study took place. Within the limit of the materials or

resources available for their use therefore the students were asked to indicate whether **all, most, some** or **none** of their information needs were met by the resources available. A significant majority (72.5%) of respondents indicated that only some of their information needs were met. Only one respondent (1.3%) indicated that all his/her information needs were met, while another insignificant four respondents said that most of their information needs were met. As shown in the Table below,  $X^2 = 103.500$ :  $p < 0.05$ . Going by what this result established, the considered view is that the library and information needs of the students in satellite campuses are not met. Hence, the sub-hypothesis is accepted.

**Table 3:** *Meeting info needs by available resources*

		Frequency	Percent	$X^2$	Sig. Level
Valid	All information needs met	1	1.3	103.500	0.001
	Most information needs met	4	5.0		
	Some information needs met	58	72.5		
	No information needs met	17	21.3		
	Total	80	100.0		

$p < 0.05$

**4.5.2 Sub Hypothesis ( $SH^1$ ):** *Continuing education students have no significantly preferred information format from print, electronic and Audio-visual formats.*

In establishing their most preferred information format from the three options of print, electronic and audio visual provided, it is clear from table 4 below that a significant majority (71.3%) of the respondents had preference for print format. The significance level of  $X^2$  value found was 0.001 which is less than 0.05. The sub hypothesis that continuing education students have no significantly preferred information format from print, electronic and Audio-visual formats is rejected. It is noted that the students have all their lives been used to print as an information format. Besides, print as an information format is easily accessible than other formats. Further, the application of the other two

formats involves the use of electricity which may not be significantly available in the homes of some of the students. In addition, the cost of using electronic and audio-visual materials may not be affordable. This assertion was confirmed during the interview when some of the students disclosed that they were not working and therefore could not afford to buy electronic or computer mediated information system. The results reveal that with the common use of electronic and audio visual formats these days, things have not significantly changed with the students.

**Table 4: Most Preferred information format**

		Frequency	Percent	Chi-Square (X <sup>2</sup> )	Sig. level
Valid	Print	57	71.3	51.775	.001
	Electronic	12	15.0		
	Audio Visual	11	13.8		
	Total	80	100.0		

p < 0.05

The effort geared towards establishing whether the respondents Level (of study) had any influence on their choice of the most preferred information format showed that it had no significant influence (X<sup>2</sup> = 3.234: p > 0.05). See Table 5 below.

**Table 5: Most preferred information format according to level of students**

Count

		Most Preferred information			Level		
		Print	Electronic	Audio Visual	Total	X <sup>2</sup>	Sig.
Level	First Level	12	4	4	20	3.234	.519
	Second Level	23	5	2	30		
	Third Level	22	3	5	30		
Total		57	12	11	80		

Similarly, the result of the cross tabulation and chi-square to check if location had any significant influence in the respondents' choice of the most preferred information format produced no significant association. As seen in table 6 below, the value of  $X^2$  is not significant ( $p > 0.05$ ). Thus we reject the suggestion that either Level of study or Location had any significant influence on the choice. In other words, the choice of the most preferred information by the respondents was independent of their location and level (of study).

**Table 6:** *Most Preferred information by Location*

Count

		Most Preferred information			Total	Location	
		Print	Electronic	Audio Visual		$X^2$	Sig.
Location	1*	28	7	8	43	2.186	.519
	2*	29	5	3	37		
Total		57	12	11	80		

1\* = Mahalapye

2\* = Selebi Phikwe

**4.5.3 Sub Hypothesis ( $SH^2$ ):** *There is no significant difference in the various information sources used to acquire information.*

In Table 7 below, it is apparent that a significant number (90%) of respondents indicated their dependence on lecturer, followed by Colleagues with 71% as their information sources used. In addition to these two information sources the Value of  $X^2$  in a number of areas including Internet, Email and Telephone is significant ( $p$  is less than 0.05). Of the information sources listed, the significantly least used ones are email, Internet and telephone. The reason for this could be as a result of the cost involved in their use and location. Unlike the regular students who can easily walk to the university library to use email and internet facilities, students in satellite campuses don't have such provisions. Mass media like Radio and television attracted greater attention than the Internet and email. Information obtained during the interview suggested that the students listened to radio/television not necessarily for academic purposes, but to obtain information on jobs and other opportunities. Essentially, these results reject the  $SH^2$  that there is no significant difference in the various information sources used to acquire information.

Even though the value of  $X^2$  in three information sources lends credence to the sub hypothesis, such areas where the value of  $X^2$  is greater than 0.05 include the use of mass media like radio/television, reference/textbooks and library resources. They are not significant enough to write off the rejection of the  $SH^2$  that that there is no significant difference in the various information sources used to acquire information. Those who used them were not significantly more than those who did not.

**Table 7: Sources used to acquire information**

		Frequency	Percent	Chi-Square ( $X^2$ )	Sign. Level
Valid	Colleagues	57	71.3	14.450	.001
	Lecturer	72	90.0	15.200	.001
	Radio/TV	35	43.8	1.250	.264
	Internet	20	25.0	20.000	.001
	Email	8	10.0	51.200	.001
	Telephone	13	16.3	36.450	.001
	Reference text/books	47	58.8	2.450	.118
	Library Resources	40	50.0	.000	1.000
	Other	1	1.3	76.050	.001

The study made attempt to establish whether location had any significant influence in the choice of sources. No relationship was found. Virtually all the variables tested showed that the Value of  $X^2$  in each of them is not significant ( $p > 0.05$ ). The result also rejects any idea that level (of study) could influence the choice of respondents because  $p$  is greater than 0.05. Neither location nor level was found to have any significant influence in the various information sources the respondents used to acquire information.

**4.5.4 Sub Hypothesis ( $SH^3$ ):** *There is no significant information source used by the respondents.*

As indicated in table 8 below, the respondents' most important information source was "books". This further confirms the result of  $SH^1$  where the respondents opted for print as

their preferred information format. The  $X^2$  value is significant here in the sense that  $p$  is less than 0.05. Hence, the sub-hypothesis is rejected. Whether they were able to have access to the right and appropriate books was another question. With 33.8%, Lecturers were rated as second most important information source. Internet had no adherents yet among the respondents. See Table 8 below.

**Table 8:** *Most Imp Inf Source*

		Frequency	Percent	$X^2$	Sign. level
Valid	Books	36	45.0	32.700	.001
	Lecturers	27	33.8		
	Internet	0	0.0		
	Friends and Colleagues	2	2.5		
	Lecture notes /Handouts	15	18.8		
	Others	0	0.0		
	Total	80	100.0		

The crosstab and chi-square examination of the possibility of level (of study) having any significant influence on the choice of the respondents' most important information source yielded no significant association ( $X^2 = 6.805$ ;  $p > 0.05$ ). (See Table 9 below). Similarly, with  $X^2 = 2.006$  and significance level found to be .571, indicating that  $p > 0.05$ , the location of the respondents had no significant association in the respondents choice of their most important information source. See table 10.

**Table 9:** *Most Important Info. Source by Level (of Study)*

Count

		Most Imp Inf Source					Level	
		Books	Lecturers	Friends & Colleagues	Lecture notes/ Handouts	Total	$X^2$	Sig. level
Level	First Level	8	7	0	5	20	6.805	.339
	Second Level	11	10	2	7	30		
	Third Level	17	10	0	3	30		
	Total	36	27	2	15	80		

**Table 10:** *Most Important Info. Source by Location*

Count

		Most Imp Inf Source					Location	
		Books	Lecturers	Friends and Colleagues	Lecture notes/ Handout	Total	X <sup>2</sup>	Sig. Level
Locationcode	1	20	12	1	10	43	2.006	.571
	2	16	15	1	5	37		
Total		36	27	2	15	80		

The test conducted using crosstab and chi square to check if **age** had any influence in the respondents choice of the most important information source also showed no significant association – neither did **gender**. In each case, the value of X<sup>2</sup> is not significant. For instance with Age X<sup>2</sup> = 19.270: p > 0.05 (See table 11) and Gender X<sup>2</sup> = 6.985: p > 0.05 (See table 12 below).

**Table11** *Age: Most Imp. Inf. Source by Age*

Count

		Most Imp Inf Source					Age	
		Books	Lecturers	Friends and Colleagues	Lecture notes/ Handouts	Total	X <sup>2</sup>	Sig. Level
Age	Under 20	1	2	0	0	3	19.270	.082
	21-25	20	11	1	10	42		
	26-30	7	10	0	4	21		
	31-35	7	3	0	1	11		
	36 and above	1	1	1	0	3		
Total		36	27	2	15	80		

**Table 12:** Gender: Most Imp Inf. Source by Gender

Count		Most Imp Inf Source				Gender		
		Books	Lecturers	Friends and Colleagues	Lecture notes / Handouts	Total	X <sup>2</sup>	Sig. Level
Gender	Male	11	7	2	2	22	6.985	.072
	Female	25	20	0	13	58		
Total		36	27	2	15	80		

**4.5.5 Sub Hypothesis (SH<sup>4</sup>):** There is no significant procedure for obtaining information needed.

It is clearly indicated from Table 13 below that a significant number (92%) of respondents would use their lecture notes to cater for their information needs or obtain the needed information. This was followed by the choice of discussion with colleagues (82.5%). Use of the Internet and listening to radio and television were the least used methods to obtain the needed information. On the whole the X<sup>2</sup> value is significant: p is less than 0.05. As such, this result is at variance to the sub hypothesis that there is no significant procedure for obtaining information needed; hence, the sub hypothesis is rejected.

**Table13:** Catering for or obtaining Information Needs

		Frequency	Percent	Chi-square (X <sup>2</sup> )	Significance Level.
Valid	I use my lecture notes	74	92.5	57.800	0.001
	I discuss with colleagues	66	82.5	33.800	0.001
	I use the public library	42	52.5	.200	.655
	I use the Internet Café	12	15.0	39.200	0.001
	I listen to Radio/television	21	26.3	18.050	0.001
	others	3	3.8	68.450	0.001

p < 0.05



**4.5.6 Sub-Hypothesis (SH<sup>5</sup>):** *Students do not have adequate access to appropriate information sources.*

Our first attempt at measuring the sub-hypothesis was to test respondents' accessibility to the Internet. From table 14 below, only 9 respondents said they had access to the Internet facilities. 4 (5%) had this access only at work on their own machine, 3 (3.8%) also at work but on shared machine, whilst only 2 or 2.5% respondents had access to the Internet at home on own machine. In this case, the X<sup>2</sup> value is significant: p is less than 0.05. This result subscribes to the sub hypothesis that students do not have access to appropriate information source; hence, the hypothesis is accepted. See the Table below

**Table 14:** *Access to Internet facilities*

		Frequency	Percent	X <sup>2</sup>	Significance Level
Valid	No	71	88.8	45.000	0.001
	Yes	9	11.3		
	Total	80	100.0		

p < 0.05

**4.5.6.1 Lib Used to meet info needs**

Table 15 below shows a total of 55 (68.8%) (of the 80 respondents) claimed that their attempt to meet their information needs took them to the library. As they indicated the library used, it is not surprising to note that a significant majority (94.5%) of the respondents who claimed to use the library at all actually patronized public library. Public library was the only (major) accessible library to the students in satellite campuses. Only 2 (3.6%) respondents said they used UB main library, while another (one) respondent made use of a private library. More than 31% of the respondents, the results showed, did not use any library. As noticed in the table below, the X<sup>2</sup> value in this result is significant (p is less than 0.05). This result lends credence to the sub hypothesis that students do not have adequate access to information source; hence, this sub-hypothesis is accepted. The result of our attempt to establish how often the respondents visited the library shows that a quarter of them visited the library only once a month, 27.5% visited

once a week, whilst only 10% visited more than once a week. The students also confirmed during the interview that they were hesitant in going to the public library because most of the time they did not obtain what was needed there. Further examination on public library used by respondents is shown in SH<sup>6</sup> below. Table 3 above under  $H^m$  further illustrates the insignificant number of respondents that indicated their information needs were met.

**Table15:** *Lib Used to meet info needs*

		Frequency	Percent	Chi square( $X^2$ )	Significance level
Valid	Public Library	52	94.5	43.655	0.001
	UB Main Library	2	3.6	47.291	0.001
	UB Branch Library	0	0.0		
	Other	1	1.8	51.073	0.001
Total		55	100.0		

$p < 0.05$

The crosstab and chi-square result shows that gender had no significant association with the respondents' frequency of visit to the library. The  $X^2$  value shows that it is not significant:  $p > 0.05$

**Table 16:** *Frequency of visit to the library by Gender*

Count

		Frequency of visit to the library				Gender		
		Never	Once a month	Once a week	More than once a week	Total	$X^2$	Sig. Level
Gender	Male	2	5	7	3	17	.835	.841
	Female	3	14	16	4	37		
Total		5	19	23	7	54		

As would have been noticed in main hypothesis ( $H^m$ ) above, of all information resources available to the respondents, only one respondent indicated that all his/her information

needs were met, only four said most of their needs were met, whilst majority of them (72.5%) said only some of their information needs were met (See Table 3 above).

**4.5.7 Sub-Hypothesis (SH<sup>6</sup>):** *Public libraries in towns and villages where satellite campuses are located are not significantly effective in meeting the library and information needs of students.*

It is noted in our analysis of SH<sup>5</sup> above that 52 out of 55 respondents that indicated they used library actually patronized the public library. During the interview conducted, a significant 16 of the 21 (76.2%) students interviewed indicated that they were not satisfied with services obtained in the public library, adding that they only patronized (the public library) because they did not have any other library to go. They complained the resources of the library were never useful either in writing any assignment or in preparing for test and examination. As also discussed under the main hypothesis (H<sup>m</sup>), when asked to indicate whether all, most, some or none of their information needs were met by the resources available to them, a significant majority (72.5%) of respondents indicated that only some of their information needs were met. Only one respondent indicated that **all** his/her information needs were met, while another insignificant four respondents said that most of their information needs were met. The Table shows that  $\chi^2 = 103.500$ :  $p < 0.05$ . Since most of the respondents used public library, this result gives support to the sub-hypothesis and is therefore accepted.

**4.5.8 Sub-Hypothesis (SH<sup>7</sup>):** *Students are not adequately equipped with information skills to enable them access library and information services with confidence.*

The students had been taught their courses on computing and information skills before the questionnaire was administered. As seen in tables 17 and 18 below, a significant majority (80%) of respondents were either poor or fair in computing and information skills before they received training, whilst only 20% said they were either good or excellent. After undergoing the training/courses those who were now good or excellent had significantly risen to 66%, whilst those who were still poor after the course had significantly reduced from 46% to 7.5%. Investigation during the interview revealed that some of those who were still poor could not, for one reason or the other, attend the

practical sessions of the course; while some also claimed they did not have anywhere to practice what was learnt and were therefore not sure of the depth of the skills acquired. It is however gratifying to note that most of the respondents showed they now had the skill if there was somewhere to practice it. The  $X^2$  Value as seen in the tables 17 and 18 below is significant:  $p$  is less than 0.05. The respondents clearly fall into significantly positively different levels of knowledge and understanding of information skills. With these results the sub-hypothesis that students are not adequately equipped with information skills to enable them access library and information services with confidence is rejected.

**Table 17:** *Information Skills level before programme*

		Frequency	Percent	$X^2$	Sig. Level
Valid	Poor	37	46.3	33.800	0.001
	Fair	27	33.8		
	Good	13	16.3		
	Excellent	3	3.8		
	Total	80	100.0		

**Table 18:** *Information Skills level now*

		Frequency	Percent	$X^2$	Sig. Level
Valid	Poor	6	7.5	35.100	0.001
	Fair	21	26.3		
	Good	41	51.3		
	Excellent	12	15.0		
	Total	80	100.0		

A cross tabulation and chi-square exercise to test whether the level (of study) of respondents had some significant influence on the findings either before or after the training of computing and information skills course showed no significant association. Either way, the value of  $X^2$  is not significant ( $p > 0.05$ ) See the immediate two tables below:

**Table 19:** *Computer & Information Skills level before training:*

Count

		Comp/Inf. Skills level before programme				Total	Level	
		Poor	Fair	Good	Excellent	Total	X <sup>2</sup>	Sign. level
Level	First Level	5	9	5	1	20	10.833	.094
	Second Level	12	12	4	2	30		
	Third Level	20	6	4	0	30		
Total		37	27	13	3	80		

**Table 20:** *Computer & Information Skills level after training*

Count

		Comp/Inf. Skills level now (after training)				Total	Level	
		Poor	Fair	Good	Excellent	Total	X <sup>2</sup>	Sign. Level
Level	First Level	1	5	8	6	20	11.220	.082
	Second Level	2	4	20	4	30		
	Third Level	3	12	13	2	30		
Total		6	21	41	12	80		

**4.5.9 Sub-Hypothesis (SH<sup>8</sup>):** *There are no significant differences in the impact of barriers affecting the use of information resources*

As we set out to identifying the barriers or hurdles (if any) militating against the respondents' use of information sources and establish whether there are significant differences in the impact of barriers affecting the use of information resources, the results revealed that lack of (well-equipped) library constituted the largest percentage of the barrier with 55%. This was followed by a twin factor of lack of time and lack/cost of equipment with 50% respectively. Probably because of the training on computing and information skills received, only 17.5% of respondents considered lack of technological skill a barrier. Surprisingly, the respondents did not consider isolation so much a barrier. Two other respondents cited lack of relevant materials in the local library and lack of university library nearby as barriers. From table 21 below the Value of X<sup>2</sup> is significant as p is less than 0.05 in some respects like isolation, lack of technological skill and

others. On the other hand the Value of  $X^2$  is not significant ( $p > 0.05$ ) on some items like lack of time, lack of library and lack/cost of equipment. Those who picked them were not significantly different from those who did not. Though the respondents fall, sometimes significantly, into different levels of barriers militating against their use of information sources, we accept the sub-hypothesis that there are no significant differences in the impact of barriers affecting the use of information resources.

**Table 21:**

**Barriers**

		Frequency	Percent	$X^2$	Sig. Level
Valid	Lack of time	40	50.0	0.000	1.000
	Isolation	12	15.0	39.200	0.001
	Lack of library	44	55.0	.800	0.371
	Lack/Cost of Equipment	40	50.0	0.000	1.000
	Lack of technological skill	14	17.5	33.800	0.001
	Other	2	2.5	72.200	0.001

**4.6 Summary**

The intent of this exercise was to investigate the library and information needs of continuing education students at satellite centres of the University of Botswana with Selebi Phikwe and Mahalapye centres as case study. This chapter has presented and analyzed the data collected. We have tried to analyse and interpret data using SPSS.

It is noted that the respondents fall into several and varied information needs ranging from subjects relating to course of study and job opportunities after study, to information on how they can further their education after Diploma Program among others

One main hypothesis and eight sub-hypotheses – all in null, were tested leading to the application of cross tabulation and chi-square to determine if some significant

association existed between the findings and the variables under demographic information. Such variables tested as and when considered appropriate include gender, age, level and location.

The analysis of our data involved testing the main and sub hypotheses outlined. Our main hypothesis that the library and information needs of continuing education students in satellite campuses are not significantly adequately met was accepted. Similarly the table below gives the summary of the sub-hypotheses tested with the data and the results.

**Table 22: Summary and results**

<b>Sub-Hypotheses</b>	<b>Results</b>
Students are not adequately equipped with information skills to enable them access library and information services with confidence	Rejected
Continuing education students have no significantly preferred information format from print, electronic and Audio-visual formats.	Rejected
There is no significant difference in the various information sources used to acquire information	Rejected

There is no significant information source used by the respondents.	Rejected
There is no significant procedure for obtaining information needed.	Rejected
Students do not have adequate access to appropriate information sources.	Accepted
Public libraries in towns and villages where satellite campuses are located are not significantly effective in meeting the library and information needs of students.	Accepted
There are no significant differences in the impact of barriers affecting the use of information resources	Accepted

The next chapter (the concluding chapter) provides summary, discussion of findings, conclusions and recommendations.



## CHAPTER 5

### SUMMARY, DISCUSSION OF FINDINGS AND RECOMMENDATIONS

#### 5.1 Summary

The purpose of this study was to investigate the library and information needs of continuing education students at satellite centres of the University of Botswana using Selebi Phikwe and Mahalapye centres as case study. While the outreach arm of the University, Centre for Continuing Education continues to establish satellite centres across the country and running programmes, there was the fear that adequate measures had not been undertaken to provide for the library and information needs of this category of learners. It was probably this type of fear that made Sweet (1986) assert that “such problems are known to lead to a decline in motivation for study, cause high levels of students’ frustration and play a role in student attrition”. Unfortunately still, much as he tried the researcher could not lay hands on any empirical records showing that any research had ever been conducted on the students that registered to undergo their studies in this environment.

About a third of the total population of students in the two centres of Mahalapye and Selebi Phikwe used as a case study responded to the questionnaire randomly distributed – 43 in Mahalapye and 37 in Selebi Phikwe study centres. Without any significant influence of either location, level of study or age, the results of the investigation revealed that these students had enormous library and information needs in their pursuit of their programme. Unfortunately, the facilities are not available for them. Yes, they were trained; the study shows that students lacked places and, or resources to fall on and apply the knowledge gained in information skills acquired. There was no doubt that a lot of gaps exist in information provision which consequently led to their needs not being met.

Results showed that these extra mural students significantly preferred print as an information format to electronic and audio-visual formats, yet print materials in form of books, journals and relevant magazines are hardly available for them. For lack of

relevant and adequate books as an information source, which is their preference, students would settle for their lecture notes or colleagues as a procedure for obtaining the needed information. Public libraries in towns and villages where satellite campuses are located are not significantly effective in meeting the library and information needs of students. Other information resources like the internet, email, radio/television and online databases etc. were usually not given any pride of place and not providing satisfactory information needs to them.

## **5.2 Discussion of findings**

Devadason and Lingam (1996) affirm that lack of self sufficiency constitutes information needs in day to day work. These information needs, the duo maintain, represent gaps in the current knowledge of the user. The results showed that information needs of the respondents were many and varied. Apart from having information needs on subjects relating to their course of study which overwhelming 95% of the respondents indicated and job opportunities after completing their studies which about 89% respondents showed interest in, 84% would want information on career development, 80% on sponsorship and scholarship for further education and 71% on how to further their education after completing the present Diploma programme. Their information needs seemed endless. The implication of these expressions is that if their information needs would be met or adequately satisfied, provision must be made for resources that would answer all their queries relating to the above. Any information or resource centre that would meet the information needs of the students must be adequately equipped in all the areas mentioned.

There is sufficient evidence in the study to show that the information needs of the students were not met. When given the option to indicate those information sources that satisfied their needs, it is remarkable but regrettable to note that only 5% respondents chose online databases, 10% email, 21% Internet and 11% University main/branch library. Apparently, it was not that the respondents would not want to use them; it was just that the resources were not accessible to the students. Colleagues and public library that were available attracted 52.5% and 45% respectively. Wilson (1981) in his model, shows that part of the information-seeking behaviour may involve other people through information exchange and that information perceived as useful may be passed to other

people, as well as being used (or instead of being used) by the person himself or herself. Ellis (1993) in his behavioural model of information seeking strategies also argues that communication with other people is a key component in the initial search for information. The 'other people' the continuing education students were communicating with were not the subject or extension librarians but their fellow classmates or colleagues. Their information seeking behaviour only revolved around their fellow students. And that is unfortunately where their search ends! As seen in the main hypothesis, only one (1.3%) respondent indicated that all his/her information needs were met.

It has thus emerged from this exercise as demonstrated by the result that students too can be a valuable source of information. Though Devin's sense making theory (1999) anticipates a bridge in closing the gap between a situation and outcome, it remains disheartening to note that "colleagues" would be the most satisfying information resource to the students and therefore the bridge to close the gap. This only portrays inaccessibility and dearth of adequate information resources to the respondents. This was further corroborated in another development when students were asked about the sources they used to acquire information; "Colleagues" came second with 71% to Lecturer (90%) and "books" came a distant third with 58.8%. It is however gratifying to note in another response to a question that "books" with 45% would be the most important information source of respondents.

The study found that the respondents preferred information format was print as 71% of respondents indicated. Only a relatively insignificant 15 percent would prefer electronic and another 14 percent audio visual. This of course is not surprising. Understandably, the students seemed not to be in any haste to change from what they had been used to. Besides for reasons of circumstances surrounding their studies and location, print remains unbeatable option as information format to them.

In order for the respondents to obtain or cater for their information needs, the study established that in most cases they would either use their lecture notes or discuss with colleagues. While 92.5% of respondents would resort to the former, 82.5% would opt for the latter. 52.5% used public library, 15%, Internet café and 26% listen to radio/television. It does not sound enviable for students in tertiary institution to depend on lecture notes or discuss with colleagues in order to write assignment, test and

examination or obtain the needed information. Other options like using the internet or the library should be more viable. All this is an indication that the respondents did not have access to appropriate information sources. The inadequacy was further demonstrated by 72.5% of respondents indicating that only some of their information needs were met by the information resources available to them. Only 5% said most of their information needs were met; only 1% said all his/her information needs were met, while another 21% clearly indicated that none of their information needs was met.

One way of equipping students for lifelong learning and to enable them to appropriately use the modern information and communication technology (ICT) to obtain the needed information is the training in computing and information skills. Computing and information skills courses are made compulsory for all the students of the university including the learners in satellite centres. At the time the questionnaire was administered all the students had been taught the two required courses GEC 121 & 122 of computing and information skills. The study revealed that respondents were adequately equipped with information skills to enable them access library and information services with confidence. For instance, before the commencement of their diploma programme 46% of respondents said they were poor in computing and information skills, but after receiving training only 7.5% claimed they were poor, while the number of those who were good or excellent before the start of the program had risen from 20% to 66% after the training. With training received, the problem foreseen is where and how they were going to practice the knowledge gained.

It should be stated however that even though the students had received training on information skills, they were not well versed in the practical aspect of the training received. Possibly because their location is removed from a well equipped resource centre, they had not used some of the invaluable information services before. For instance when asked to indicate the services they had used in the past year, not many of them had used web searches, online catalogues, microfiche/microfilm and web search materials for academic or any purpose. Only 5 (6.3%) respondents said they had used online databases or catalogues, only 2 (2.5%) had used microfiche/microfilm and only 3 (3.8%) said they had searched the web. Even popular services like reference and use of journals could only attract paltry number. While 33 (41%) respondents said they had used reference service in the past one year, those who had used journals within the

same period were 31 respondents or 38.8%. Apparently the students were not aware or exposed to most of these services. Thus any resource centre that would adequately serve these students would not only provide such services, the students would need proper orientation on the usefulness of the facilities.

Wilson (1981) in his second model notes that in the effort to discover information to satisfy a need, the enquirer is likely to meet with barriers of different kinds. The study examined this and found that respondents encountered a range of barriers in their bid to satisfy their information needs. Lack of (adequate) library constituted the greatest pain to respondents as 55% of them considered it a barrier. Lack of time and lack/cost of equipments were regarded as barriers by 50% respondents respectively, while isolation and lack of technological skills were considered barriers by only 15% and 17% of respondents respectively. Possibly because of the training received on computing and information skills, lack of technological skill was not so much regarded a barrier by majority of respondents. Possible suggestions on how to overcome these barriers are considered under recommendation discussed shortly.

### **5.3 Conclusion**

In embarking on this exercise, the study specifically aims at:

Conducting the library and information needs analysis of the part-time evening students of the CCE programme based in Selebi Phikwe and Mahalapye

Review the perceived gap in library and information service provision to the students in the identified centres,

Establish the extent of knowledge of (computing and) information skills by the part-time evening students in the two centres, and

Propose some suggestions or recommendations of library and information service delivery that are effective and responsive to the needs of these outreach students.

Thus far the study has achieved the first, second and third aims; the accomplishment of the fourth is detailed out under recommendations below.

The results of the study showed that the respondents' demographic information including the age, location and level (of study) had no significant impact, influence or association on the results of various findings discussed.

In concluding this chapter, it is important to note that the study shows that there were lots of library and information needs, but a number of barriers stood on their way to use information sources. In the absence of the right and reliable sources of information to use, the students regrettably survived either on their colleagues or the lecture notes dictated to them in the class as their major sources of information. There is the absence or near absence of library and electronic information sources like the internet facilities. Whilst majority of them considered books as the most important source of information, the right and appropriate books were not within their easy reach. Some implications are perceived here. A lot of students had graduated from these courses without having any exposure or accessibility to variety of information sources including the library. A number of barriers seen to militate against their use of the variety of information sources, among others include lack of library, lack of time on the part of students and lack and/or cost of equipments. With adequate resources however, the problems are possibly not insurmountable.

#### **5.4 Recommendations**

In exploring how to overcome the barriers encountered by the students on their way to access the needed information, a number of proposals were offered. First, the students were asked in the questionnaire to indicate the library and information services they thought might be useful for them. From a fairly long list of items suggested, prominent among their preferences were reference and internet services that recorded 58 and 66 percent respectively. The other suggested services like email, telephone, radio/television, web search materials, photocopying, online catalogue/databases and interlibrary loans, among others, did not attract favourable responses of respondents. In most cases, those who indicated preference for them were less than 25% of the total respondents. It is therefore useful to suggest that reference and Internet service should be provided for these students in their respective locations.

Further, as we searched for solutions to overcome the barriers that affect the students' use of information sources in satellite centres, the following suggestions, which consequently form part of our recommendations, were proffered by the respondents:

"...that the University of Botswana Library should ask for a space in the local Public Library, a Secondary School or any school library to keep some materials for their use".

"... that the University should negotiate access to and/or install computer with Internet facilities for them in a local library".

"... that the University Library or its branch should run mobile library that would visit the satellite centres occasionally"

"...that the University bookshop should be mobile and visit all UB locations at specific periods and sell books to off-campus students".

In addition to the above suggestions, if information obtained from the students during the interview was anything to go by, the following recommendations are further made:

More training with adequate practical hands on experience is required for the students not only in information skills, but also computing skills as well. It is true that they had been trained the students did not seem to have enough practical experience. For instance, students could hardly differentiate between online catalogues/databases and web search. Most of them did not have email addresses and indeed, were yet to know how to use the facility. They should be introduced or trained in the use and applications of various forms of information sources. Making these students 'information literate' is vital. This would enable them not only to be familiar with the various information sources and channels but also inculcate in them the habit of ethical use of information for knowledge building and sharing.

If the University cannot afford to establish its own branch libraries in these centres (which of course may be costly to maintain), the university library should

urgently pursue the idea of going into comprehensive coalition or partnership with other libraries and, or education centres or any institutions in those locations where satellite centres were established. The partnership should not only involve keeping adequate materials for the use of its students, but also explore the possibility of installing and, or using internet facilities in those centres.

It is observed that while University of Botswana Library is fully automated and lots of resources can be obtained at the press of buttons, this is not so with most other libraries in the country yet. It is therefore pertinent to suggest that proper training should also be arranged for the librarians of institutions that the University of Botswana Library goes into partnership with. This will enable them to appropriately provide the required service to the UB students in satellite centres.

With adequate training on the use and operation of email received, the students should be introduced to their subject librarians so that online reference service could be effectively carried out.

Customers and extension Service division of the university library should be well funded and, or adequately mobilized to cater for the library and information needs of students in satellite centres. Extension librarians cannot stay in the office with regular or traditional librarians throughout the year. One other thing that has emerged from this exercise as seen in the result is that the students can be a valuable source of information and feedback to help library and information professionals improve their service and other offerings to continuing education programmes. Extension service librarians need to go out to the field, feel where the “shoe pinches” and promptly attempt to cushion any effect of distance and, or inadequacy experienced by their clients in outreach centres.

## **5.5 Recommendations for further study**

This study concentrated on satellite campuses located in places where the University of Botswana Library did not have any physical presence. For reasons of time constraint,



this researcher could only use two centres of Selebi Phikwe and Mahalapye centres as case study.

There are at least two satellite centres across the country where the University of Botswana Library has branches at the same venues where the extra mural evening programmes of CCE take place. These include the centres in Francistown and Gaborone. It will be useful to conduct a study in future on the possible impact of the presence of the branch libraries in those locations (including Maun where the UB branch library is far from the study centre) on the education of the part-time evening students. Consequently a possible attempt could be made to draw comparison between such 'privileged' centres and the 'underprivileged' centres like Mahalapye and Selebi Phikwe.

Another area of possible study in future is library and information needs of distance learners who registered with the University of Botswana as well as those who live in Botswana but registered with foreign distance teaching institutions outside the country or undergoing cross-border education. It will be recalled that unlike the subjects of the present study who hold their lectures in the evening, distance learners hardly enjoy any face-to-face contact with their lecturers, institutions libraries or librarians.

## References:

Adedibu, L. O. and Adio, G. 1997. "Information needs and information seeking patterns of medical students at Lautech, Ogbomoso". *Aslib Proceedings* 49 (9), pp. 238 - 42

Akinpelu, J.A. 1996. "Equity as a motive in University Continuing Education in Botswana", *Convergence*, Vol. XXIX, No 2, pp. 46-54

Akinpelu, J.A. 1997. Equity and quality in University Continuing Education: an inaugural lecture on behalf of the Centre for Continuing Education.

Annabi, B.R. 2005. "INFO 310: Model Comparison Paper". Available at [http://students.washington.edu/bribera/docs/info310/model\\_comparison.doc](http://students.washington.edu/bribera/docs/info310/model_comparison.doc) Retrieved December 2 2005.

Apps, J.W. 1979. *Problems in continuing education*, New York: McGraw-Hill

Ary, D., Jacobs L.C. & Razavieh, A. 1990. *Introduction to research in education*. New York: Holt, Rinehart and Winston.

Badu, E.E. 1991. The information seeking habits of graduate students in the University of Ghana. *Education Libraries Journal*, 34, 2, pp. 35-39.

Callinan, Joanne E. 2005. Information-seeking behaviour of undergraduate biology students: A comparative analysis of first year and final year students in University College Dublin. *Library Review*, Vol. 54 (2), Nov. 2005 pp. 86-99.

Chikonzo, A. C. 2000. Information needs and information-seeking behaviour of the veterinary student and staff of the University of Zimbabwe. Thesis - (MLIS) submitted to the Department of Library and Information Studies, University of Botswana, Gaborone.

Clougherty, L. et al. 1998. The University of Iowa Libraries undergraduate user needs assessment. Available at <http://www.ala.org/ala/acrl/acrlpubs/crljournal/backissues1998b/november98/hoagland.pdf> Retrieved December 3 2005.

Courtney, S. 1989. "Defining Adult and Continuing Education". In: Merriam, Sharan B. and Cunningham, Phyllis, M. (editors) *Handbook of Adult and Continuing Education*. San Francisco: Jessey- Bass Publishers.

Dervin, B. 1999. *Sense-Making's theory of dialogue: A brief introduction*. Paper presented at a non-divisional workshop held at the meeting of the International Communication Association, San Francisco. Available <http://communication.sbs.ohio-state.edu/sense-making/meet/1999/meet99dervinintro.html> Retrieved November 2005.

Dervin, B. and Nilan, M. 1986. Information needs and uses. *Annual review of Information Science and Technology* .M.E. Williams. White Plains, NY, Knowledge Industry Publications, 21: pp. 3-33.

Devadason, F.J. and Lingam, P.P. 1996. A methodology for the identification of information needs of users. Paper presented at the 62<sup>nd</sup> IFLA General Conference – conference proceedings – August 25-31, 1996. <http://www.ifla.org/IV/ifla62/62-devt.htm>

Eeva-Liisa, E. "University students' information seeking behaviour in a changing learning environment" *Information Research*, Vol. 4 (2), October 1998. <http://informationr.net/ir/4-2/isic/eeskola.html> Retrieved October 2005

Ellis, D. 1989. A behavioural approach to information retrieval design. *Journal of Documentation* 46: pp. 318-338.

Ellis, D.A. 1993. A comparison of the information seeking patterns of researchers in the physical and social sciences. *Journal of Documentation* 49 (4), pp. 356 – 369.

Fidzani, B.T., 1998. "Information needs and information-seeking behaviour of graduate students at the University of Botswana", *Library Review*, Vol. 47 No.7, pp. 329-40.

Harrison, J., Hepworth, M. and De Chazal, P. 2004. NHS and Social care interface: a study of social workers' library and information needs. *Journal of Librarianship and Information Science* 36 (1), March 2004, pp. 27-35.

Javis, P. 1983. *Adult and Continuing Education: theory and practice*. London: Routledge

Javis, P. 1998. *Adult and Continuing Education: theory and practice*. London: Routledge.

Kascus, M. and Aguilar, W. 1992. "Providing library support to off-campus programs" *College and Research Libraries* 49, (1), pp. 29 – 37.

Kingrey, K.P. 2002. 'Concepts of Information seeking and their presence in the practical library literature'. *Library Philosophy and practice*. Vol. 4 (2) <http://www.webpages.uidaho.edu/~mbolin/kingrey.pdf> Retrieved March 2, 2005

Kuhlthau, C.C. 1991. Inside the search process: information seeking from the user's perspective. *Journal of the American Society for Information Science* 42(5): pp. 361-371.

Kuhlthau, C. 1993. *Seeking meaning: a process approach to library and information services*. Norwood, New Jersey: Ablex. Anomalous

Kuhlthau, C.C. (Undated). Information search process: a search for meaning rather than answers. PowerPoint presentation of the [Information Search Process](#). <http://www.scils.rutgers.edu/~kuhlthau/Search%20Process.htm> Retrieved 2 March 2005.

Lokman, I.M. and Stephanie, W.H. 2001. Information seeking behaviour and use of social science faculty studying stateless nations: a case study. *Journal of Library and Information Science Research* 23 (1) pp. 5-25.

Majid, S. and Tan, A.T. 2002. Usage of information resources by computer engineering students: a case study of Nanyang Technological University, Singapore. *Online Information Review*, Vol.26 (5) 2002, pp. 318 – 325.

National Commission on Education. 1993. Report of the National Commission on Education. Gaborone: Government Printer.

Ocholla, D.N. 1996. Information-seeking behaviour by academics: a preliminary study". *International Information and Library Review*, 28, pp. 345-58.

Osiobe, S.A. 1988. Information seeking behaviour. *International Library Review*, 20, 3, pp. 337-46.

Otlhogile, B. 2003. University of Botswana: about UB. Available at: <http://www.ub.bw/about/index.cfm>. Retrieved October 14, 2006

Sweet, R. (1988). 'Student drop-out in distance education: an application of Tinto's model'. *Distance education*, 8(2), 201-219.

Thørsteinsdóttir, G. (2001). *Information-seeking behaviour of distance learning students*. Information Research, 6(2) Available at: <http://InformationR.net/ir/6-2/ws7.html>. Retrieved November 2, 2004.

Tlou, T. 1995. Foreword. Centre for continuing education, CCE Newsletter, Vol. 1, No. 1, January 1995.

Thwala, A. 1996. Information seeking behaviour of humanities scholars: the case of the University of Swaziland. An MLS dissertation submitted to the Department of Library and Information Studies, University of Botswana.

University of Botswana. 2000. University of Botswana Calendar (2000-2001). Gaborone

University of Botswana. 2006. University of Botswana Calendar (2006-2007). Gaborone.

Watson, E.F. 1992. *Library services to distance learners: a report*. Vacouver: The Commonwealth of Learning.

Weigts, W., Widdershoven, G., Kok, G., and Tomlow, P. 1993. Patients' information seeking actions and physicians' responses in gynaecological consultations. *Qualitative Health Research*, 3, pp. 398-429.

Wilson, T.D. 1981. On user studies and information needs. *Journal of Documentation*, 1981. 37(1): pp. 3-15.

Wilson, T.D. & Walsh, C. 1996. Information behaviour: an inter-disciplinary perspective. A report submitted to the British Library Research & innovation Centre on review of literature. London: British Library Research and Innovation Centre. (British Library Research and Innovation Report 10). Retrieved 02/10/2004 from <Http://information.net/tdw/publ/infbehav/chap2.html>

Wilson, T.D. 1997. Information behaviour: an inter-disciplinary perspective. *Information Processing & Management* 33 (4): pp. 551-572.

Youngman, F. 1996. "Continuing Education in the Revised National Policy on Education – An appraisal" Paper presented at the first National Workshop on Continuing Education, Gaborone, February 1996.

## APPENDIX

### Questionnaire

This questionnaire has been designed for purposes of obtaining information on library and information needs of Continuing Education students of the University of Botswana. Your input will help in appreciating what these needs are, how you have been coping and the way to overcome the problems and/or barriers (if any) faced in meeting your needs. It should be noted that whilst library may be a major source of information, there are other information sources that may be available for your use. These are suggested and embedded in the questionnaire. We should be grateful if you would please respond sincerely to all the questions. You have the assurance that any information provided will be confidentially treated.

**Please indicate with a cross (X) or tick (✓) your response to the following questions. In some cases you will have to write your response in the space provided.**

**Thank you,**

#### **O. Oladokun**

1. What gender are you?

- Male  
 Female

2. How old are you?

- Under 20  
 21 – 25  
 26 – 30  
 31 – 35  
 36 and above

3. What level of the programme are you in?

- First Level  
 Second Level  
 Third Level

4. Which of the following would you consider as your information needs area(s)? (Mark all that apply)

- \_\_\_\_\_ Subjects relating to course of study  
\_\_\_\_\_ Job opportunities after study  
\_\_\_\_\_ Career Development  
\_\_\_\_\_ Sponsorship/Scholarship for further education  
\_\_\_\_\_ Further education after Diploma  
\_\_\_\_\_ Other, please specify

5. What is your most preferred information format

- Print
- Electronic
- Audio Visual

6. What sources do you use to acquire information? (mark all that apply)

- Colleagues
- Lecturer
- Radio/Television
- Internet
- Email
- Telephone
- Reference texts/books
- Library Resources
- Other, please specify

7. What do you consider your most important information source?

- books
- Lecturers
- Internet
- Friends and Colleagues
- Lecture Notes/ Handouts
- Other, please specify

8. How do you cater for your information needs or obtain information needed (mark all that apply)

- I use my lecture notes
- I discuss with colleagues
- I use the public library
- I use internet café
- I listen to radio/television
- Others, please specify

9. Why do you need library and information service? (mark all that apply)

- To borrow books
- To study
- For coursework-related information needs
- To write assignment, prepare for test and examination
- Other, please specify

10. What was your level of computer and information skills before starting this [DABS] programme?

- Poor
- Fair
- Good
- Excellent

11. What is your level of computer and information skills now?

- Poor

- Fair
- Good
- Excellent

12. Do you have access to computer with Internet facilities?

- Yes – If Yes, please go to No.13
- No – If No, please go to No. 14

13. If yes, where? (mark all that apply)

- At work on my own machine
- At work on a shared machine
- At home on my own machine
- At home on a shared machine

14. Do you use any library to meet your information needs?

- Yes – If Yes, please go to No.15
- No – If No, please go to No. 19

15. Which library do you use?

- Public Library
- UB Main Library in Gaborone
- UB Branch Library
- Other, please specify

16. What are your reasons for using the library? (Mark all that apply)

- Location
- Ease of use
- Resources
- Other, please specify

17. How often do you visit the library in person? (Mark one)

- More than once a week
- Once a week
- Once a month
- Never
- other, please specify

18. What library and information services have you used in the past year? (mark all that apply)

- Reference
- Check out materials
- Journals/Newspapers
- Inter Library loans
- Materials on Reserve
- Online databases/Catalogues
- Microfiche/microfilm
- Web searches
- Government publications
- Photocopying



- Other, please specify
- None

19. Which of the following library and information services do you think might be useful for you:  
(Mark all that apply)

- Reference
- journals/Newspapers
- Inter Library loans
- Online catalogue
- Microfiche/Microfilm
- Government publications
- Internet
- Email
- Telephone
- Photocopying
- Check out materials
- Web search materials
- Radio/Television
- Other, please specify

20. How often do you visit your main campus Library online? (Mark one)

- More than once a week
- Once a week
- Once a month
- Never
- Other, please specify

21. Are all your information needs adequately met by the resources available to you?

- All of my information needs are met
- Most of my information needs are met
- Some of my information needs are met
- None of my information needs are met
- Other, please specify

22. Which of the following information sources satisfies your information needs? (mark all that apply)

- University main or branch library
- Colleagues
- Public Library
- Local internet café
- Online databases/sources
- Internet
- Radio/Television
- Email
- Other, Please specify
- None

23. What barriers affect your use of information sources? (Mark all that apply)

- Lack of time,

- Isolation,
- Lack of library,
- Lack of equipment, and cost.
- Lack of technological skill
- Other, please specify

24. How do you think the barriers can be overcome? Please give suggestions

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25. Additional comments

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